

CLAIMS:

1. A multi-layer electrode for electrostatic control of fly height, the multi-layer electrode comprising:
 - a first insulating layer having a top surface opposing a bottom surface of a slider and having a bottom surface;
 - a first electrode layer for connection to an actuation power source having a top surface opposing the bottom surface of first insulator and having a bottom surface;
 - a second insulator layer having a top surface opposing the bottom surface of the first electrode and having a bottom surface;
 - a second electrode layer having a top surface opposing the bottom surface of the second insulator layer and having a bottom surface; and
 - a third insulating layer having a top surface opposing the bottom surface of the second electrode layer and having a bottom surface.
2. The multi-layer electrode of claim 1 wherein the first insulating layer is made of dielectric material.
3. The multi-layer electrode of claim 1 wherein the second insulating layer is made of dielectric material.
4. The multi-layer electrode of claim 1 wherein the third insulating layer is made of dielectric material.
5. The multi-layer electrode of claim 1 wherein the first electrode layer is made of conductive material.
6. The multi-layer electrode of claim 1 wherein the second electrode layer is made of conductive material.
7. A slider comprising:

a slider body for supporting a transducer;
an electrostatic actuator electrode on the slider body for
controlling fly height of the transducer with respect to a
surface, the electrode having a first electrode layer
connected to an actuation power source and a second
electrode layer positioned between the first electrode layer
and the surface, the second electrode layer being
electrically insulated from the first electrode layer; and
a bond pad connection for supplying actuation power to the first
electrode layer.

8. The slider of claim 7 wherein the electrostatic actuator electrode
further comprises:

a first insulating layer between the slider and the first electrode
layer;
a second insulating layer between the first electrode layer and the
second electrode layer; and
a third insulating layer between the second electrode and the
surface.

9. The slider of claim 7 wherein the slider includes a recessed
portion in which the electrostatic actuator electrode is located.

10. A multi-layer electrode carried by a slider for use in controlling
fly height of the slider with respect to a storage medium of a data storage
system, wherein the multi-layer electrode forms a plurality of capacitors in
series for applying a voltage between the slider and the storage medium.

11. The multi-layer electrode of claim 10 comprising:
a first electrode layer for receiving a fly height control voltage;
and

a second electrode layer insulated from the first electrode layer and positioned between the first electrode layer and the storage medium.

12. The multi-layer electrode of claim 11 and further comprising:
 - a first insulating layer between the slider and the first electrode layer;
 - a second insulating layer between the first electrode layer and the second electrode layer; and
 - a third insulating layer between the second electrode and the storage medium.